Alternative Compliance Notice of Proposed Rulemaking -Workshop

July 12, 2006

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Outline for Workshop

- DOE presentation
  - Q & A
- Public participation
  - Q & A

S&FP Program Background

- EPAct 1992
- 10 CFR Part 490 – Alternative Fuel Transportation Program
- Promoting the use of alternative fueled vehicles and petroleum replacement
- Start Date - Model Year 1997
- Covered entities: over 315
- Coverage - state government entities and alternative fuel provider fleets

Coverage Basics

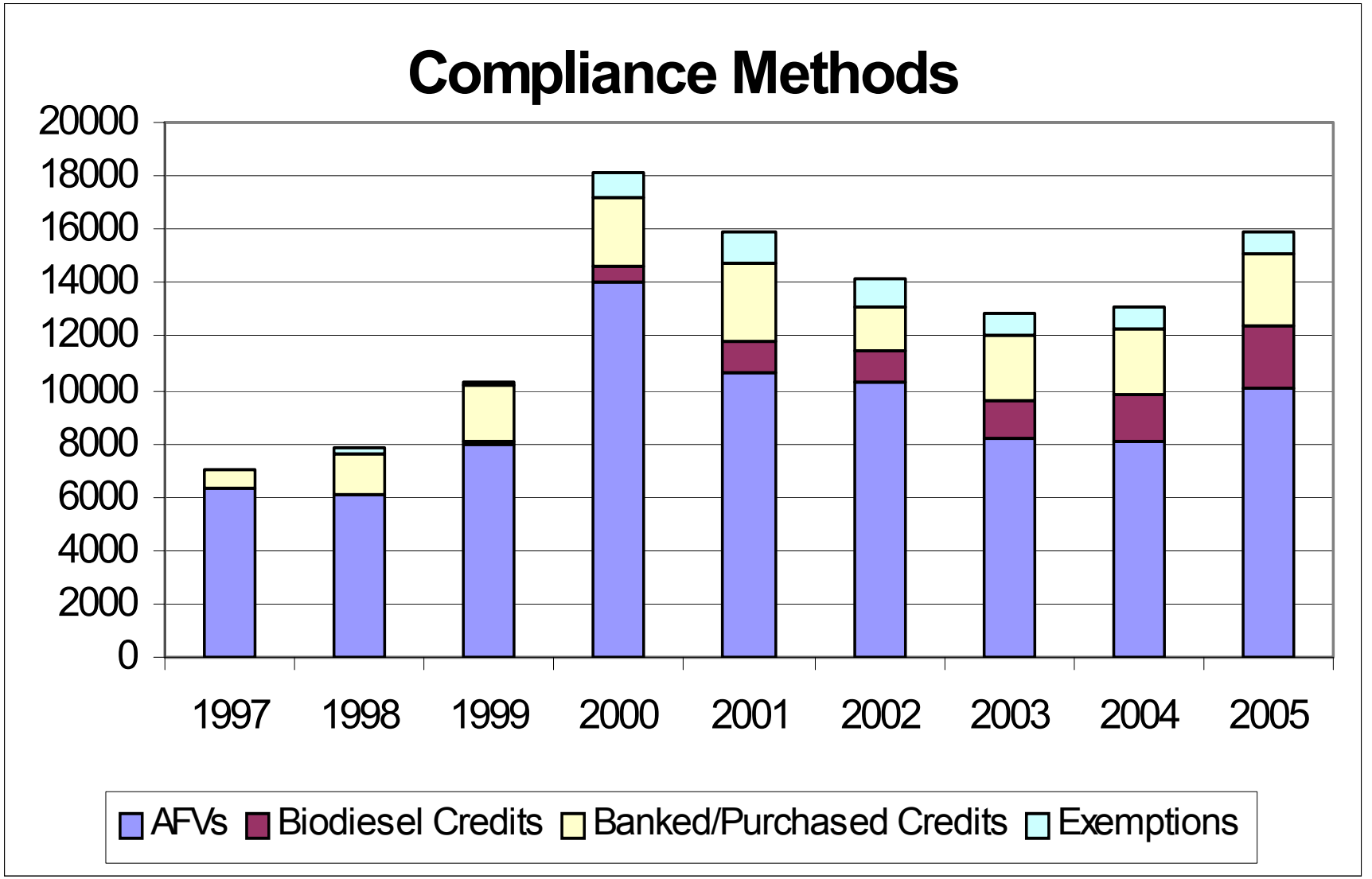
- Light duty vehicles
- Location
- Fleet Size
- Excluded vehicles

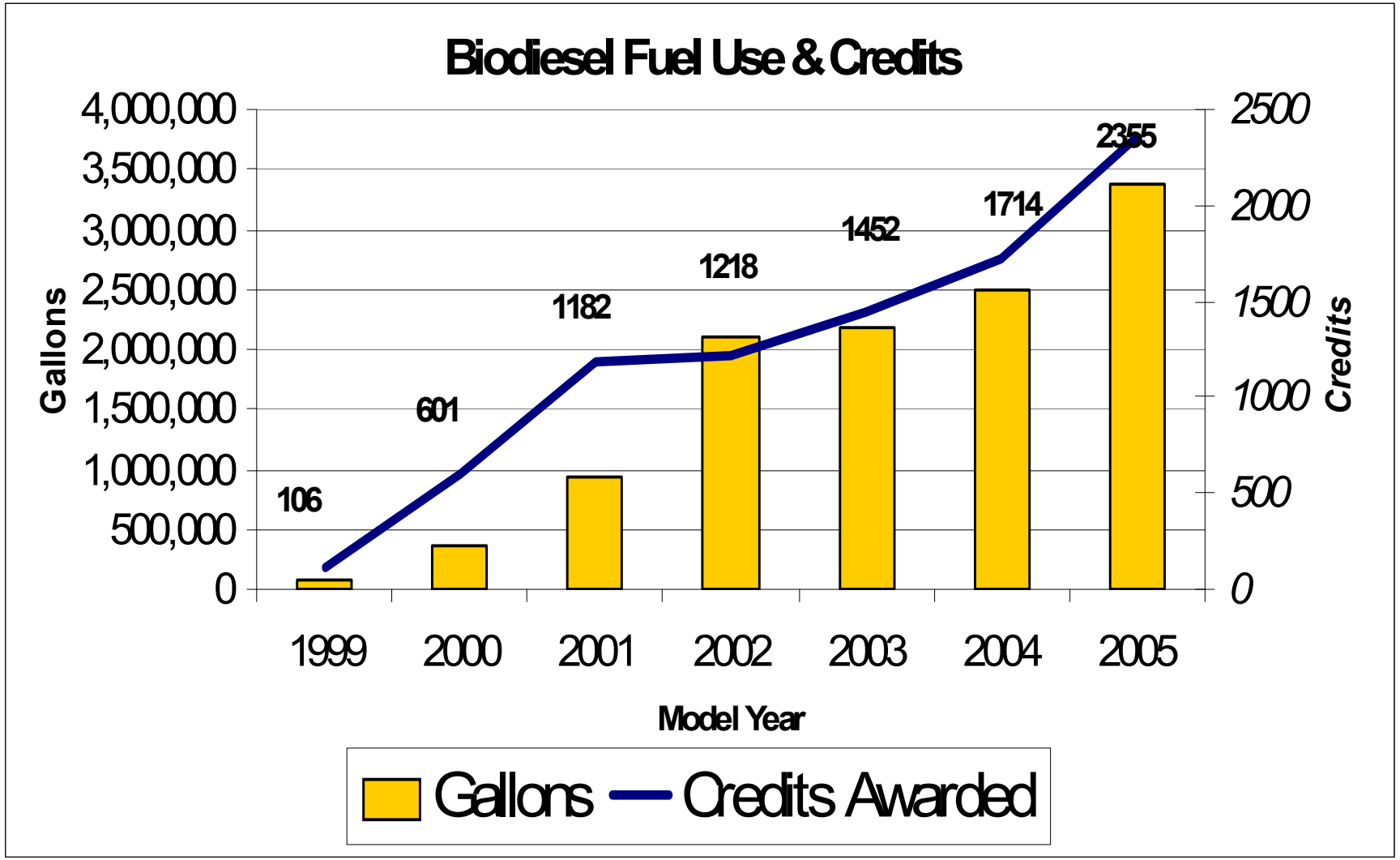
Current Compliance Options

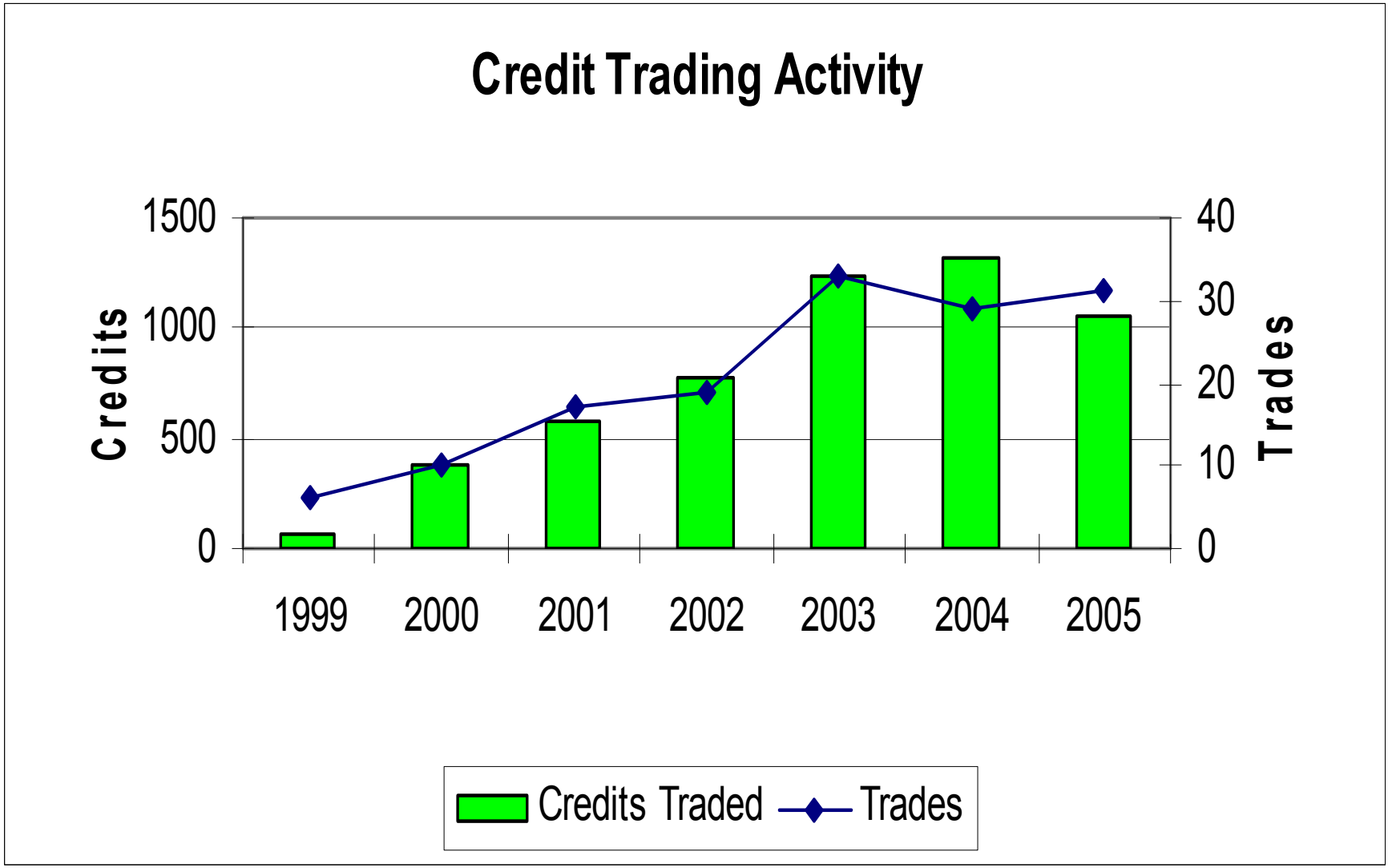
- Acquire AFVs
- Biodiesel blends
- Credits
- Exemptions

Impact of Program to Date

- Total annual AFV requirements ~ 10,000 vehicles
- AFVs acquired – 98,000
- Biodiesel gallons consumed – 11.5 million
- Credits sold/traded – 5,400


Compliance Methods
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
AFVs
Biodiesel Credits
Banked/Purchased Credits
Exemptions


Biodiesel Fuel Use & Credits
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
Gallons
2500
2000
1500
1000
500
0
Credits
106
601
1182
1218
1452
1714
2355
1999
2000
2001
2002
2003
2004
2005
Model Year
Gallons
Credits Awarded


Credit Trading Activity
Credits
1500
1000
500
0
40
30
20
10
0
Trades
1999
2000
2001
2002
2003
2004
2005
Credits Traded
Trades

Legislative Background

- EPAct 2005 (Pub. L. No. 109-58) - signed 08/08/2005
- Maintains existing program's emphasis on AFV acquisitions and petroleum reduction
- Alternative compliance provision only affects fleets that request and receive waiver from DOE

Alternative Compliance Minimum Requirements

- Model year of application
- Petroleum reduction plan
- Cumulative AFV requirement
- Average fuel consumption (in GGE)
- Calculation of petroleum reduction amount

Alternative Compliance Highlights

- Written applications required
- Petroleum reductions must be real
- Fewer restrictions on vehicle technology types
- Exemptions not allowed

Alternative Compliance Process

- Two steps:
  1. Determine petroleum reduction amount
  2. Describe plan for achieving petroleum reduction amount
- Submit application to DOE including this information
- DOE will respond within 45 working days

1. Determine petroleum reduction amount

- Determine the number of cumulative AFV requirements
  - AFVs currently operated by the fleet
  - AFVs required in the waiver year
  - Subtract out AFVs to be retired in waiver year
  - AFV requirements previously waived (not applicable in first waiver year)

- Calculate petroleum that would be displaced
  - Equal to number of cumulative AFV requirements multiplied by the average AF fuel use per vehicle

Example: Determining Cumulative AFV requirements

Waiver Year 1

AFVs in inventory - 20

New AFV requirements

10 LDVs * 90% = 9 AFVs

Number AFVs to be retired - 0

Cumulative AFV requirements = 20 + 9 = 29

Waiver Year 2

AFVs in inventory - 20

AFVs previously waived - 9

Number AFVs to be retired - 2

New AFV requirements

10 LDVs * 90% = 9 AFVs

Cumulative AFV requirements = 20 + 9 – 2 + 9 = 36

2. Describe plan for achieving petroleum reduction

- Petitioning entity develops a plan suited to that fleet's situation
- Reduction must occur in motor vehicles controlled by covered entity
- Excluded and non-covered vehicles may be included
- Non-road vehicles may be used if replace on-road vehicles

Potential Petroleum Reduction Plan Components

- Acquisition of more fuel-efficient vehicles, including hybrid vehicles
- Use of AF in LD, MD or HD vehicles
- Use of biodiesel blends
- Other (e.g., VMT reductions)
- Combinations of above alternatives

Example Fleet

Step 1 – Determine petroleum reduction amount

- 15 cumulative AFV requirements
- Average fuel use per AFV = 500 gal/yr (average across LDVs in fleet)
- Assumed Average VMT = 15,000 miles/yr
- Displacement required
  - 15 waiver AFVs*500 GGE
  - **7,500 GGE**

Example Fleet

Step 2 – Describe plan for achieving petroleum reduction

<u>Option A – B20 Use</u>

- B20 GGE factor = 1.126
- Gallons B20 required
  - 7,500 GGE/1.126 GGE/gal B20/0.2 gal B100 in B20
  - **33,100 gallons B20**
  - **6,620 gallons B100**

Example Fleet

Option B – E85 Use

- E85 GGE factor = 0.72
- Gallons E85 required
  - 7,500 GGE/0.72 GGE/gal E85
  - **10,417 gallons E85**

(More gallons of E85 are required due to its lower heat content)

Example Fleet

Option C – HEVs and E85 Use

- Purchase 5 HEVs
- Average fuel economy = 55 mpg
- Fuel used from HEVs
  - 5 HEVs*15,000 miles/yr/55mpg = **1,364 GGE**
- Fuel Used if Bought Conventional Vehicles
  - 5 vehicles*500 gallons/yr = **2,500 GGE**
- Fuel saved from HEVs
  - 2,500 GGE – 1,364 GGE = **1,136 GGE**
- E85 Use Required
  - (7,500-1,136) GGE = **6,364 GGE**
  - E85 gallons = 6,364 GGE/0.72 = **8,839 gallons**

Alternative Compliance – Requirements

- Waiver Application – due by March 31st before waiver year
- Annual Report – by December 31st following waiver year
- Record Retention – 3 years beyond waiver year

Subpart F Credits

- Using AFV credits to address petroleum reduction shortfall
- Submit request to DOE
- The number of credits needed is based on average number of gallons the fleet's LDVs use:
  - E.g., a fleet that on average uses 500 gallons per LDV and has a shortfall of 1,500 gallons would need 3 Subpart F credits to offset its shortfall

Excess Petroleum Reductions

- Roll over of excess reductions
- Submit request to DOE

Annual Reporting

- December 31
- Certify the following information:
  - The total number of gge units of petroleum consumed
  - The total number of gge units of alternative fuel consumed
  - The amount of petroleum reduced through alternative compliance
  - A projected baseline fuel consumption level for the following model year if the fleet or covered person intends to request another waiver

GGE - gallons of gasoline equivalent

Record Retention

- Records necessary to substantiate the accuracy of an annual report should be retained for a minimum of 3 years following end of waiver year

Submitting Written Comments

- Three options (identify RIN 1904-AB66)
  - E-mail Linda Bluestein – Linda.Bluestein@ee.doe.gov
  - Paper submission via mail to Ms. Linda Bluestein – U.S. Dept. of Energy, FCVT, Mailstop EE-2G, Room 5F-034, 1000 Independence Avenue, SW, Washington, DC 20585-0121
  - E-Rulemaking Portal - www.regulations.gov

GGE Calculations

Alternative Fuel Conversion Factors to Gasoline Gallon Equivalent (GGE)			
Fuel Type	**Fuel Measurement Unit**	**Conversion Factor**	**GGE Calculation**
B100	gallons	1.015	GGE = B100 gal x 1.015
B20	gallons	1.126	GGE = B20 gal x 1.126
CNG	gallons at 2400 psi	0.18	GGE = CNG gal (at 2400 psi) x 0.18
CNG	gallons at 3600 psi	0.27	GGE = CNG gal (at 3600 psi) x 0.27
CNG	gallons at 3000 psi	0.225	GGE = CNG gal (at 3000 psi) x 0.225
CNG	hundred cubic feet	0.83	GGE = CNG ccf x 0.83
Diesel	gallons	1.147	GGE = Diesel gal x 1.147
E-85	gallons	0.72	GGE = E-85 gal x 0.72
Electric	kWh	0.03	GGE = Ele kWh x 0.03
Gasoline	gallons	No conversion needed	GGE = Gasoline gal
Hydrogen	kg	1	GGE = H2 kg x 1
LNG	gallons @ 14.7psi and -234 degrees F	0.66	GGE = LNG gal x 0.66
LPG	gallons	0.74	GGE = LPG gal x 0.74

http://www.eere.energy.gov/vehiclesandfuels/epact/pdfs/afc_docket/conversion_table.pdf

Q&A Session